Remarks on Presenting the National Medal of Science and the National Medal of Technology and Innovation

May 19, 2016

Thank you, everybody. Please have a seat. Welcome to the White House. Today I have the privilege to present our Nation's highest honor for scientific and technological achievement: the National Medals of Science and the National Medals of Technology and Innovation.

The amount of brainpower in this room right now is astonishing. [*Laughter*] But when you talk to these brilliant men and women, it's clear the honor has not yet gone to their heads. They still put their lab coats [on][°] one arm at a time. [*Laughter*]

Joining us to celebrate these achievements are Members of Congress; Secretary of Energy Ernie Moniz, a pretty good scientist himself; my science adviser, John Holdren; the Director of the National Science Foundation, France Còrdova; the Director of the U.S. Patent and Trademark Office, Michelle Lee; and Jim Rathmann from the National Medals of Science and Technology Foundation. I want to thank them for all the work that they do each year to help us organize and honor the scientists and innovators in this great nation of ours.

Now, we are engaging in a lot of science and tinkering here at the White House. [*Laughter*] We've got Astronomy Night. We got Hack-a-thons. We got Code-a-thons. We have Science Fairs, Maker Faires. It is fun. I love this stuff. I get to test out some of the cool stuff that ends up here in the White House. At this year's Science Fair, one ninth—9-year-old, named Jacob Leggette, turned the tables on me and suggested that we needed to start a kids' advisory group—[*laughter*]—so that young people can help us understand what's interesting to them when it comes to STEM education, which I thought was a pretty good idea. [*Laughter*]

So today I can announce that we are launching a "Kid Science Advisers" campaign for young scientists and innovators to send in their suggestions for what we should be doing to support science and technology and inspire the next generation of scientists and innovators. So those young people out there who are listening, go to our website. We're going to be looking for some advisers, some advice. [*Laughter*]

The real reason we do this, as I've said before, is to teach our young people that it's not just the winner of the Super Bowl or the NCAA tournament that deserves a celebration; that we want the winners of science fairs, we want those who have invented the products and lifesaving medicines and are engineering our future to be celebrated as well. Because immersing young people in science, math, engineering, that's what's going to carry the American spirit of innovation through the 21st century and beyond.

That's what the honorees who are here today represent. Many of them came from humble or ordinary beginnings, but along the way, someone or something sparked their curiosity. Someone brought them their first computer. Someone introduced them to a lab. A child in their lives needed specialized medical help. And because they lived in an America that fosters curiosity and invests in education and values science as important to our progress, they were able to find their calling and do extraordinary things. So there are few better examples for our young people to follow than the Americans that we honor today.

[°] White House correction.

Just to take a couple of examples: Shirley Ann Jackson, who is part of my science advisory group, grew up right here in Washington, DC. Hers was a quiet childhood. Her first homemade experiment involved, I understand, collecting and cataloging bumblebees in her backyard. [*Laughter*] Two events happened that would not only change our country's course, but Shirley's: In *Brown* v. *Board of Education,* the Supreme Court handed down a landmark decision that separate educational facilities are inherently unequal; and the Soviets launched *Sputnik* up in the sky, sparking a space race. As Shirley put it, "Those two events in history changed my life for good."

She went on to become the first African American to earn a doctorate in physics from MIT, the second woman to do so anywhere in America. And over the years, Dr. Jackson has revolutionized the way science informs public policy from rethinking safety at our nuclear plants to training a new generation of scientists and engineers that looks more like the diverse and inclusive America that she loves.

Then you have Mark Humayan, who immigrated to the United States with his family when he was 9 years old. When his diabetic grandmother lost her vision, he began studying to become an ophthalmologist, hoping he could save the sight of others. Mark helped create the "Argus II," a "bionic eye" that has restored vision to patients who've been blind for up to 50 years. He says the moment when he witnessed someone seeing light and shapes, someone experiencing the miracle of sight for the first time in decades—those moments have been some of the happiest and most rewarding of his professional career. In his words—and I think no pun is intended—"There wasn't a dry eye in the operating room." [*Laughter*]

Growing up in Chicago, Mary-Claire King's dad would sit with her in front of the TV for Cubs and White Sox games—[*laughter*]—and make up story problems for her to solve about the players on the field. She just thought that's how everyone watched baseball, which explains why, when a college adviser encouraged her to take a genetics course, she said, "I couldn't believe anything could be so fun." [*Laughter*]

But every single American should be grateful for Mary-Claire King's path. We're glad that she thought it was fun, because at a time when most scientists believed that cancer was caused by viruses, she relentlessly pursued her hunch that certain cancers were linked to inherited genetic mutations. This self-described "stubborn" scientist kept going until she proved herself right. Seventeen years of work later, Mary-Claire discovered a single gene that predisposes women to breast cancer. And that discovery has empowered women and their doctors with science to better understand the choices that they make when it comes to their health and their future.

So these are just three examples of the remarkable stories that are represented here today. They illustrate why this is such an extraordinary moment to be a scientist in this country. America's progress in science and technology has countless revolutionary discoveries within our reach: new materials designed atom by atom, new forms of clean energy, new breakthroughs in treating cancer and ending the wait for organ transplants; private space flight, a planned human mission to Mars, a NASA probe that broke free from the solar system 3 years ago, and it just kept on going. That's some of what America can do.

That's why we're constantly pushing Congress to fund the work of our scientists, engineers, entrepreneurs and dreamers to keep America on the cutting edge.

As President, I'm proud to honor each of you for your contributions to our nations. As an American, I'm proud of everything that you've done to contribute to that fearless spirit of

innovation that's made us who we are and that doesn't just benefit our citizens, but benefits the world. We're very proud of what you've done. So congratulations to all of you.

With that, let's read the citations and present the awards.

[*At this point, Lt. Col. Andrew C. Steadman, USA, Army Aide to the President, read the citations and the President presented the medals, assisted by Maj. Steven M. Schreiber, USMC, Marine Corps Aide to the President.*]

Let's give another big round of applause to our honorees. [*Applause*] Yay! Very proud of them.

And let's give a big round of applause to my Military Aide, who had to read those citations—[*laughter*]—with a lot of pretty complicated phrases in them. You were practicing, weren't you? [*Laughter*] The—well, it just goes to show we can all learn science. [*Laughter*] Science rocks.

So thank you very much, everybody. Please enjoy the reception. Congratulations to our honorees. Have a wonderful afternoon. Thank you very much, everybody.

NOTE: The President spoke at 2:44 p.m. in the East Room at the White House. In his remarks, he referred to James L. Rathmann, Chairman, National Science and Technology Medals Foundation; Jacob Leggette, student, Digital Harbor Foundation's Mini Makers program in Baltimore, MD; Shirley A. Jackson, president, Rensselaer Polytechnic Institute; Mark Humayun, Cornelius J. Pings Chair in Biomedical Sciences, University of Southern California; and Mary-Claire King, professor of genome sciences and medicine, University of Washington. Also participating in the ceremony were National Medal of Science recipients Armand P. Alivisatos; Michael Artin; Albert Bandura; Stanley Falkow; Shirley A. Jackson; Rakesh K. Jain; Mary-Claire King; Simon Asher Levin; Geraldine Richmond; and National Medal of Technology and Innovation recipients Joseph N. DeSimone; Robert E. Fischell; Arthur Gossard; Nancy Ho; Chenming Hu; Mark Humayun; Cato T. Laurencin; Jonathan Marc Rothberg. Also participating in the ceremony were National Medal of Science recipients Armand P. Alivisatos, Michael Artin, Albert Bandura, Stanley Falkow, Rakesh K. Jain, Simon Levin, Geraldine Richmond; and National Medal of Technology and Innovation recipients Joseph DeSimone, Robert Fischell, Arthur Gossard, Nancy Ho, Chenming Hu, Cato T. Laurencin, and Jonathan Rothberg. The transcript released by the Office of the Press Secretary also included the reading of the medal citations.

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